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(54) FILTRATION MEMBRANE AND ITS PRODUCTION

(57) Abstract:

PURPOSE: To obtain a membrane of superior selectivity and permeability, having ultrafine penetrating pores in high density and uniformly, by carrying out an anodic oxidation treatment on both faces of a highly pure aluminum foil to form anodic oxide films having a large number of fine pores and then by applying an electrolytic etching treatment to it.

CONSTITUTION: A filtration membrane is produced by carrying out an anodic oxidation treatment on both faces of a highly pure (99.9% or more) aluminum foil with an electrolytic solution of such as sulfuric acid or oxalic acid to form anodic oxide films (ca. $0.1\text{W}10\mu\text{m}$ in thickness) having a large number of fine pores and then by applying an electrolytic etching treatment to it. By this treatment, etching proceeds from the fine pores of the anodic oxide film, the nuclei of etching, and fine etch pits penetrating the foil are formed, which give the foil a separability for fine foreign particles. Moreover, if a monomolecular film of polysiloxane polymer is supported on this membrane, for example, a uniform supporting membrane for gas separation can be formed, because surface diameters of etch pits are so small and uniform.

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